

REMARKS

Claims 1, 3-21 are currently pending in the present application. Reexamination and reconsideration of the application, as amended, are respectfully requested.

REJECTION OF CLAIMS UNDER 35 U.S.C. 103

Rejection of Claims 1, 3, 5-7, 9-15, and 17-21 under 35 U.S.C. 103(a) – Raynal Reference in view of Bohn Reference

Claims 1, 3, 5-7, 9-15, and 17-21 are rejected under 35 U.S.C. 103(a) for the reasons set forth in paragraph 3 of the Action on pages 2 to 8. Specifically, claims 1, 3, 5-7, 9-15, and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raynal et al. (U.S. Pat. No. 6,643,389), in view of Bohn et al. (U.S. Pat. No. 6,207,945), which is hereinafter referred to as the Bohn reference.

The rejections under 35 U.S.C. 103 are respectfully traversed, and reconsideration and reexamination of the application is respectfully requested for the reasons set forth hereinbelow.

Navigation Circuit Not Fairly Taught

The Raynal reference, whether alone or in combination with Bohn, fails to teach or suggest “a navigation circuit, coupled to the navigation array, for controlling when the navigation array captures navigation images and for receiving the navigation images and based thereon for determining the amount of movement of a fingerprint generally along the first axis and the amount of movement of a fingerprint along a second axis that is generally perpendicular to the first axis,” as claimed.

The Action equates element 27 of Raynal with the navigation circuit as claimed. However, it is respectfully submitted that the power supply and scan control unit 27 of Raynal does not fairly

teach or suggest the navigation circuit because the power supply and scan control unit 27 has a very different structure and operates in a very different manner than the navigation circuit as claimed.

For example, the power supply and scan control unit 27 is described as having the following three functions: 1) supplying a reference voltage to each cell 21 and power to detector 11 (col. 4, 8-11); 2) using finger movement speed information from mouse device 19 to operate scanning stages 23 and 25 (col. 4, lines 11-14); and 3) placing the detector 11 in either an active state or a standby state (col. 4, lines 15-21). However, Raynal does not fairly teach or suggest “a navigation circuit, coupled to the navigation array, for controlling when the navigation array captures navigation images, as claimed. As advanced previously, Raynal does not use captured images for navigation, but instead uses a mouse device 19 (see col. 3, lines 51-53 and col. 7, lines 3-8 (claim 15)), which appears to include a physically rotating wheel that turns. The device 19 is called a “mouse” presumably because it utilizes a scroll wheel that is commonly found in cursor pointing devices (e.g., mice). In fact, since Raynal’s fingerprint imager does not utilize a navigation array, as admitted by the Action, unit 27 clearly does not control when the navigation array captures navigation images. Perhaps, the next Action can point to a specific portion of Raynal that describes the above-noted limitation.

Single Sensor Integrated Circuit Not Fairly Taught

Furthermore, the Action states on page 3 that Raynal teaches a single sensor integrated circuit that incorporates all the claimed limitations recited in claim 1. Col. 4, lines 29-32 does in fact state a desire for the components of the Raynal to be “super integrated” into “a single chip.” However, common sense suggests that mouse device 19, which the Action equates with the navigation array, cannot physically be integrated into a single chip, as purported by Raynal, since the mouse 19 has a physical rotating structure that is not conducive to integration into an electronic integrated circuit. Consequently, Raynal’s proposed single chip solution is an inoperative

embodiment or a non-enabling disclosure of the claimed limitation. Moreover, since mouse device 19 does not use captured images to determine finger movement speed information (col. 4, lines 11-12), but instead uses a mechanical rotating wheel, it would not be obvious to one skilled in the art to convert the mechanical wheel into a corresponding and functioning electronic function that can be performed by a chip. Similarly, it is clear that Bohn's handheld scanner 100 teaches away from a simple elegant single chip solution by utilizing multiple chips or circuits. Consequently, Bohn does not fairly teach or suggest integrating all the elements of claim 1 in a single chip as claimed.

Raynal and Bohn are from Different Fields

The Action characterizes Raynal and Bohn as from the same field of "image reconstruction from sub-images." It is respectfully submitted that the Action has defined the field of invention at too general or too broad a level of abstraction as to make the actual or real distinctions between the two references not meaningful.

As advanced hereinafter, the Raynal and Bohn references are very different approaches to very different problems. The Raynal reference is directed to a fingerprint imager that is the general field of the claimed invention. In sharp contrast, the Bohn reference is directed to imaging device (i.e., a hand-held scanner), which, as can be appreciated, is very different application from capturing fingerprints or imaging fingerprints.

For example, in sharp contrast the Action's characterization of the two references, the field of invention of the Raynal patent is very different from the field of invention of the Bohn patent. While the field of invention of the Raynal patent is directed to the field of "methods of and system for capturing fingerprint images," the field of invention of the Bohn patent is directed to "position sensing devices and, more particularly, to a hand-held scanner having a position sensing device integrated into the imaging portion of the hand-held scanner."

Furthermore, it is not insignificant that the International class and U.S. class/subclass for the Raynal patent and the Bohn patent are different. Moreover, the field of search for the Raynal patent is different than the field of search for the Bohn patent.

It is also respectfully noted that the hand-held scanner of Bohn moves with respect to a fixed image (e.g., text). See col. 8, lines 17-18. In contrast, the fingerprint imager is stationary, and the fingerprint is moved with respect to the imaging array in a direction that is generally perpendicular to the first axis, as claimed.

These factors militate against the conclusory statement found in the Action that states, "it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Raynal with Bohn to implement movement determination using a navigation array instead of a mouse, the motivation being to obtain accurate position information."

Furthermore, there does not appear to be anything in the cited references that teach or suggest that the Raynal approach is inaccurate or requires greater accuracy. In addition, it is certainly less than clear from the cited references that the sensors 130, 132 of the Bohn approach is more accurate than mouse 19 of Raynal since the different applications have different requirements and different ways to define and measure accuracy. For example, the detection of the movement of a finger involves different considerations and requirements than the movement of a hand-held scanner across a page of text.

Moreover, in addition to missing a motivation to combine, the actual combination as proposed by the Action is highly suspect because there is no indication that the proposed combination would operate, given the differing requirements and design considerations of these different applications. Consequently, it is respectfully submitted that without the teachings of the present invention, the incorporation of a navigation array with an imaging array in a fingerprint imager would not be obvious. Furthermore, Raynal would not be combined with Bohn because of

the differences in the field of invention, differences in the type of problem being solved, differences in design considerations, and differences in the overall approach the different design considerations. Accordingly, it appears that the Raynal approach is a complete system that does not require any modification or added complexity.

Furthermore, the Federal Circuit has held, "It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." (quoting In re Fine, 837 F.2d 1071, 1075, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988)), In re Fritch, 23 USPQ 2d 1780, 1784 (Fed. Cir. 1992).

It is respectfully submitted that the claimed invention has been improperly used as an instruction manual or "template" to piece together the teachings of the Raynal reference and the Bohn reference so that the claimed invention is rendered obvious. Accordingly, for these reasons, and for the reasons discussed above, it is respectfully submitted that claims 1, 3, 5-7, 9-15, and 17-21 patentably distinguish over Raynal in view of Bohn. Withdrawal of this rejection under 35 U.S.C. section 103(a) is respectfully requested.

Rejection of Claims 1 and 4 under 35 U.S.C. 103(a) – Raynal in view of Blalock

Claims 1 and 4 are rejected under 35 U.S.C. 103(a) for the reasons set forth in paragraph 4 of the Action on pages 8 to 10. Specifically, claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raynal et al. (U.S. Pat. No. 6,643,389), in view of Blalock et al. (U.S. Pat. No. 5,729,008), which is hereinafter referred to as the Blalock reference.

The Raynal reference, whether alone or in combination with Blalock, fails to teach or suggest "a navigation circuit, coupled to the navigation array, for controlling when the navigation array captures navigation images and for receiving the navigation images and based thereon for

determining the amount of movement of a fingerprint generally along the first axis and the amount of movement of a fingerprint along a second axis that is generally perpendicular to the first axis," as claimed. The arguments regarding the deficiencies of Raynal's teachings are equally applicable herein and will not be repeated herein.

Furthermore, it is respectfully that Raynal, whether alone or in combination with Blalock, fails to teach or suggest, "single sensor integrated circuit having ...," as claimed. First, neither Raynal nor Blalock discloses a fingerprint imager with the claimed elements in "a single sensor integrated circuit," as claimed. As advanced previously, Raynal utilizes at least two separate components (i.e., a rectangular sensor array 13 and a mouse device 19, see col. 1, lines 38-40 and col. 1, lines 56-57.) Similarly, Blalock, which is directed to a hand-held scanner similar to that described in Bohn, appears to utilize at least an imaging sensor 22 and two navigation sensor 24, 26 along with other electronic components housed in scanning device 10 (see FIGS. 2 and 3 and col. 4, lines 28-35). It is noted that although Blalock discloses that the navigation sensor 24 or 26 (col. 5, lines 10-20) is preferably implemented as a single integrated chip, Blalock clearly teaches that the imaging sensor 22 and navigation sensors are implemented as separate electronic components (see FIG. 2, col. 4, lines 27-35, 50-56). Consequently, the teachings of Blalock reference contravene the explicit claim language that recites that the imaging array and navigation array are implemented in "the single sensor integrated circuit," as claimed. In this regard, it is respectfully submitted that Blalock teaches away from the claimed invention. Accordingly, for these reasons, it is respectfully submitted that claims 1 and 4 patentably distinguish over Raynal in view of Blalock. Withdrawal of this rejection under 35 U.S.C. section 103(a) is respectfully requested.

Rejection of Claims 8 & 16 under 35 U.S.C. 103(a) – Raynal and Bohn References in view of
Akizuki Reference

Claims 8 & 16 are rejected under 35 U.S.C. 103(a) for the reasons set forth in paragraph 5 of the Action on pages 10 & 12. Specifically, claims 8 & 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raynal et al. (U.S. Pat. No. 6,643,389) and Bohn et al. (U.S. Pat. No. 6,207,945), which is hereinafter referred to as the Bohn reference, and further in view of Akizuki (U.S. Pat. No. 6,360,004), which is hereinafter referred to as the Akizuki reference.

The Akizuki reference is cited for teaching that “it is known to implement a fingerprint sensor as a touch-pad, or a stand-alone unit, wherein the fingerprint imager further comprises a capacitive sensor having a surface along which a finger is moved and an assembly for housing the capacitive sensor.” In particular, col. 2, lines 62-67 and col. 2, lines 17-20 of Akizuki are cited.

The rejections under 35 U.S.C. 103 are respectfully traversed, and reconsideration and reexamination of the application is respectfully requested for the reasons set forth hereinbelow.

It is respectfully submitted that the Raynal reference, whether alone or in combination with Bohn and Akizuki, fails to teach or suggest “the fingerprint imager is implemented in a stand-alone unit and wherein the fingerprint imager further comprises: a) a capacitive sensor having a surface along which a finger is moved; and b) an assembly for housing the capacitive sensor.” For the reasons advanced previously, which are incorporated herein by reference, Raynal, whether alone or in combination with Bohn, fails to teach or suggest one or more claimed limitations of the independent claims. Akizuki does not remedy the deficiencies of Raynal and Bohn, nor does Akizuki supplement the teachings of Raynal and Bohn in a manner to render the claimed invention obvious.

Accordingly, for these reasons, and for the reasons discussed above, it is respectfully submitted that claims 8 and 16 patentably distinguish over Raynal in view of Bohn further in view of Akizuki. Withdrawal of this rejection under 35 U.S.C. section 103(a) is respectfully requested.

For all the reasons advanced above, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the pending claims are requested, and allowance is earnestly solicited at an early date. The Examiner is invited to telephone the undersigned if the Examiner has any suggestions, thoughts or comments, which might expedite the prosecution of this case.

Respectfully submitted,



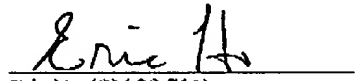
Eric Ho, Reg. No. 39,711
Attorney for Applicant

Law Offices of Eric Ho
20601 Bergamo Way
Northridge, CA 91326

Tel: (818) 998-7220
Fax: (818) 998-7242

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I hereby certify that this paper is being facsimile transmitted to the U.S. Patent and Trademark Office (fax no.: 571-273-8300) on the date below.



Eric Ho (RN 39,711)

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(Date)